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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,096	06/08/2006	Kyung-Ku Choi	81864.0069	1153

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EXAMINER	
HARRIS, GARY D	

ART UNIT	PAPER NUMBER
1794	

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08/04/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/541,096	CHOI ET AL.	
	Examiner	Art Unit	
	GARY D. HARRIS	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 May 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12 and 17-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12 and 17-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 June 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/28/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Examiner acknowledges applicant's election of Group I, Claims 1-12 & 17-20. Applicant has amended claim 1 and 17 to clarify the volume ratio of the granular substance. However, examiner finds that this is not clearly disclosed in the specification and one of ordinary skill in the art would not be apprised of its meaning. Kikitsu US 6,602,620 looks to optimize the volume ratio of magnetic particles and measure the resulting saturation magnetization (Col. 53, 54 Line 62-67, 1-7 respectively). Kikitsu '620 utilizes magnetic materials separated by nonmagnetic particles utilizing the volume ratio and particle size distribution similar to applicant. Examiner maintains rejection for reasons of record.

The rejection is substantially repeated below:

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1 & 17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In claims 1 & 17 the phrase regarding volume ratio of said matrix "in said granular substance" is not found in the specification and

examiner interprets this to mean the volume ratio of the granular substance? If the volume ratio is not defined similar to the volume ratio of Kikitsu it is not found in the specification? Examiner interprets the volume ratio and particle size to be of relevance as disclosed by applicant on page 11 & 12. However, "the volume ratio of said matrix in said granular substance" is not defined.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 3, 5, 6, 7, 17, 18, 19 & 20 rejected under 35 U.S.C. 102(b) as being anticipated by Kikitsu et al. US 6,602,620.

As to Claim 1 & 17, Kikitsu et al. '620 discloses a ferromagnetic metal particles (Col. 9, 10 Line 46-67, 1-4 respectively) granular substance with average grain diameter of 10 to 30 nm (Col. 2, Line 36-39), block copolymer volume ratio of 30 percent or less (Col. 18, Line 44-54) which would be within applicants range.

As to Claim 2 & 19, Kikitsu et al. '620 Discloses the use of Fe, Co, and Ni (Col. 9, 10 Line 46-67, 1-4 respectively).

As to Claim 3, Kikitsu et al. '620 discloses the use of Fe-Co (Col. 9, 10 Line 46-67, 1-4 respectively) & (Col. 25, Line 26-38).

As to Claim 5, Kikitsu et al. '620 discloses the importance of particle spacing (see figures 21 & 22) exchange coupling (Col. 15, 16, Line 59-67, 1-59 respectively).

As to Claim 6 & 20, Kikitsu et al. '620 discloses the use of an organic polymer (Teflon ®)(Col. 10, Line 5-23) with a granular magnetic substance (Col. 9, 10 Line 46-67, 1-4 respectively).

As to Claim 7, Kikitsu et al. '620 block copolymer volume ratio of 30 percent or less (Col. 18, Line 44-54) which examiner interprets as being in the range of 5 to 40 percent.

As to Claim 18, Kikitsu et al. '620 discloses a preferred ratio of particle sizes (see figure 32) resulting in a thickness of 10 to 25 nm (Col. 25, Line 1-2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kikitsu et al. '620 in view of Doushita et al. US 6,641,891

As to Claim 4, Kikitsu et al. '620 discloses Fe-Co alloys but does not disclose the atomic percentage of Fe and Co being in the range of 10 to 50 percent. However, Doushita et al. '891 discloses the desirability of a Fe-Co alloy having Cobalt in the range of 0 to 40 atomic percent (Col. 5, Line 36-57) in order to enhance the magnetic anisotropy. It would have been obvious to one skilled in the art to have a ferromagnetic powder with an atomic percentage of Cobalt in the range of zero to 50 percent as a desirable method of enhancing magnetic properties (Col. 5, Line 36-57) as taught by Doushita et al. '891.

Claim Rejections - 35 USC § 102 / 35 USC § 103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 8-12 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kikitsu et al. '620 in view of Sano et al. US 6,262,867

As to Claim 8, 9, 10, Kikitsu et al. '620 does not disclose complex permeability however, this feature would be inherent as both applicant and Kikitsu disclose magnetic materials Fe-Co-Ni and a polymeric material (Col. 5, Line 39-50). It has been held that where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the burden of proof is shifted to applicant to show that prior art products do not necessarily or inherently possess characteristics of claimed products where the rejection is based on inherency under 35 USC §102 or on prima facie obviousness under 35 USC §103, jointly or alternatively. *In re Best, Bolton, and Shaw*, 195 USPQ 430. (CCPA 1977).

Alternatively, Sano et al. US 6,262,867 teaches an Fe-Co-Ni alloys having relative and complex permeability that is based on head efficiency to induce magnetic flux (Col. 7, Line 1-31) (see figure16-19) and can be adjusted by changing the elemental concentrations in order to optimize overwriting. It would be obvious to one skilled in the

art to adjust the permeability in order to optimize overwriting and to achieve high performance in magnetic recording as taught by Sano et al. '867.

As to Claim 21 & 22, Kikitsu et al. '620 discloses a fluorocarbon (Teflon ®)(Col. 10, Line 5-23) similar to applicant that would inherently have a similar resistivity and complex permeability, saturation magnetization as claimed. It has been held that where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the burden of proof is shifted to applicant to show that prior art products do not necessarily or inherently possess characteristics of claimed products where the rejection is based on inherency under 35 USC §102 or on prima facie obviousness under 35 USC §103, jointly or alternatively. *In re Best, Bolton, and Shaw*, 195 USPQ 430. (CCPA 1977).

Alternatively, Sano et al. '867 discloses that by changing the Ni content in a Ni-Fe film having a saturation magnetization of 1.5 T (15kG) will result in a change in the specific resistivity (Col. 6, Line 3-9). It would have been obvious to one skilled in the art to manipulate the Nickel content to control the saturation magnetization and resistivity as taught by Sano et al. '867.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GARY D. HARRIS whose telephone number is (571)272-6508. The examiner can normally be reached on 8AM - 5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith D. Hendricks can be reached on 571-272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gary D. Harris/
Examiner, Art Unit 1794

/Holly Rickman/
Primary Examiner, Art Unit 1794